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BOVINE DISEASES.

Bovine diseases are now economically more important now than ever before; and their importance will continue certainly for several years, possibly for much longer. Much work has been done upon them in recent years; and not a little study is now required from the practitioner who desires to keep abreast of the times regarding them.

Apart from specific diseases, two great classes of bovine affections are of prime importance in practice—obstetrics and digestive disorders. Each in itself forms a very wide field, much developed in recent years. Take obstetrics first. The management of parturition cases, which, in the hands of many practitioners a generation ago left much to be desired, has greatly improved; but this is not all. The whole subject of obstetrics, especially as regards questions of sterility, has immensely widened and deepened during recent years, and now forms a speciality in itself. New knowledge has been gained regarding it; and many of the latest views advanced are still controversial and require careful testing. No member engaged in cattle practice can afford to neglect a thorough study of its modern developments.

Bovine digestive diseases we all know to be one of the most difficult studies for the clinician in veterinary medicine. With the exception of a few well-recognised conditions, their differential diagnosis is quite as obscure as that of the equine "colics." For many years this question hardly received the attention it deserved from a large number of practioners; and probably one reason was the poverty of the then existing literature upon the subject. Matters have improved in this respect; and a fair amount of literature is now available—some in translations of foreign works, and some of native authorship, by means of which the clinician can approach the study of this complex subject. Many are already studying it; others should lose no time in doing so.

The supreme importance of tuberculosis, which led many clinicians to take up microscopic technique a few years ago, needs no emphasis. Johne's disease and Contagious abortion are also likely before long to throw fresh responsibilities upon practitioners. Both will probably be scheduled at the earliest opportunity, as they certainly ought to be; and in that case the prevention of their dissemination by the sale of infected animals is certain to be one of the chief features in any legislation regarding them. This will mean more work and more responsibility for practitioners; and very probably it may entail more study also, for the regulations may impose diagnostic tests not yet current in British practice.

There was a time—not so very long ago—when many veterinary surgeons were decidedly empirical in their methods of cattle practice. That period is now over; and, in view of the increased economic importance of the subject, it is well that it should be. Bovine diseases must now receive scientific study, and very few veterinary surgeons now fail to recognise the fact. For scientific and economic reasons alike, they fully deserve all the attention that we can bestow upon them.

OUR COUNCIL MEETINGS—SOME COMMENTS THEREON.

By W. FREEMAN BARRETT.

It may be asserted, I think, without fear of contradiction that the dignity of any governing body is lowered by attacks on the chair, or conflicts between the chair and any reasonable member over whom he, as chairman, presides; and that accordingly, my assertions at the last meeting of the Council in the ordinary circumstances lowered the tone of the discussion, and of the assembly, and, *per se*, are to be regretted. It may further be stated without any question, that the tone and dignity of the proceedings of the governing body of any profession or body corporate reflect greatly the intellectual standpoint to which that profession or body corporate has attained. Assuming the correctness of the above premisses, and they cannot reasonably be denied, I cannot entirely pass over in silence the observations directed to me by our President at the last Council meeting, because if I were in error not only did I rightly incur his rebuke, but I used unwisely the trust which has been placed in me for many years by those who were good enough to vote for my election to the Council. On the contrary, if the President were in error my strictures upon his conduct in the chair were just and necessary, and upon him should be visited the disapprobation of those who sent him to the Council chamber, and of those who elected him head of his profession. My readers will agree, I am sure, that I have quite fairly stated the alternate deductions. May I add, in order not to be misunderstood, that I entertain the kindliest feelings towards our President; that I appreciate his labours and energy on behalf of the profession as keenly as any of his other colleagues, and that he will commit a grievous error if he even inclines to the belief that I desire to attack him personally; on the other hand, I am of opinion that his references to myself were wrong and in bad taste, and I hope to prove this by an analysis, an impartial one I trust, of the

proceedings of the last Council meeting. In effect, I assert that he erred not intentionally, but because he failed to understand and give effect to the true functions of the chair.

This subject of controversy with the chair is of considerable importance to the profession. By thoughtless men it may be brushed aside as of no concern. Observe the leading article in last week's *Veterinary Record*, where the whole subject—so far from being intellectually treated, is disposed of in a few lines of thoughtless personal invective, as though there were merit in that, or that such matter were sufficient for intellectual minds. I think, I am the chief delinquent in regard to this matter, I am bound to admit that, why this is so will appear later on, but in justice to myself I must mention that I am not entirely alone. There was an ill-tasting episode when our President was last re-elected, with which I had not the smallest concern. I felt extremely uncomfortable while it lasted and regretted the necessity for it very much. I merely mention this to show that the matter, however unpleasant, must be fearlessly dealt with, unless the dignity of the whole profession is to suffer.

The subject is not free from difficulty, and may easily be misunderstood unless fair consideration is given to it. Obedience to the Chair is quite rightly recognised as one of the first principles of debate, but as there are exceptions, they say, to every rule, there may be and sometimes should be exceptions to this.

I think as a preliminary to the main question, and for a proper and fair appreciation of it, we may wisely consider the main obligations and duties which attach respectively to a member or a governing body and to the chairman who presides over it. These observations refer to governing bodies generally, and are not specially applicable to or directed at our Council, and hence the president, *per se*, is unaffected, but is merely referred to in his official capacity as the chairman of a governing body.

I will endeavour, I hope quite fairly, to define roughly the duties and obligations which a member of an elected body owes to the chair. First: the member owes respect to the chairman in virtue of his office; secondly: he should endeavour generally to assist him in his work and in the conduct of the business, and give him the benefit of his services and ability in all questions arising; thirdly: he should protect him from unfair attack by other members; fourthly: he should *generally* accept his decisions on points of order, and his rulings in all matters before the governing body. The term *generally* in this last connection has especial significance to which I desire to draw attention. It might be said, I think it would be an error, that *in all cases* the chairman should be obeyed. If this were so I am in error, and owe to the President an apology. I therefore must prove this point or merit condemnation. In order to test the question let us assume that the foregoing statement is correct. That in all cases the chairman should be obeyed. Whither does the assumption lead you? If the assumption be true, you will infallibly be led on to firm ground where your footing is secure and your position safe; if the assumption be false you will by deductions reach a morass of treacherous soil emitting foul odours and be engulphed therein. The asseveration therefore is assumingly correct, but a chairman is a man, and man is universally fallible and commits error; and man is often unjust and may acquire tyrannical desires, and endeavour by arrogance or the love of power to subdue those around him. Witness Germanism at the present time and you need no further instance of the truth at any rate of the above statements. Assume the existence by heredity or development of one or other of the above vices; opposition would become a virtue, subjection a weakness, even criminal folly. There are therefore cases in which obedience is unjustified.

A less extreme case may be given by way of example. Man being fallible may totally misconceive the functions of the Chair, and may be so obsessed with his own opinions as to seek to suppress the views of those over whom he presides. The member thus treated must either abandon his or his elector's distinct right—a right which his election gives him, or fight for it by assailing his oppressor. Can there be a doubt as to where duty would lie, or the course any man of fearless courage would pursue? I think not; and would it not be an act for the best in difficult circumstances?

Further, a presiding officer may forgetfully, intentionally, or by nature so inclined (being assured of certain support around him), heap ridicule or sarcasm upon a speaker whom he does not like, or who may wisely or unwisely often be opposed to him in his views. In this case the speaker, if implicitly obedient, would lose his self-respect and dignity, and those wanting courage around him would be deterred from upholding the cause they even deemed just.

These instances are sufficient to show whither cringing obedience would lead you. As the end would manifestly result in injustice and wrong, the assumption is false, and implicit obedience cannot in all cases be justified. I think I have proved this one point, which is all I am now attempting—that implicit obedience, so far from being essential, would even in extreme cases be a positive wrong.

Now as regards the duties and obligations of the Chair to those over whom he as chairman presides. May I just repeat, although surely it is not necessary, that I am treating this aspect of the question on the broadest lines, without any reference whatever to any individual chairman; they are in my view duties and obligations which attach quite generally to all chairman throughout the country.

First: The chairman owes the duty of courtesy to all over whom he presides in order that he may retain the confidence, esteem and respect of each individual member. This should apply even to those from whom he differs on some occasions, or whose peculiarities of thought, mind, and conduct may be quite wrongly antagonistic to his own. *Secondly:* He should seek, with the assistance of those around him, the services of men in the capacity

or capacities for which their ability or mental training best fit them. *Thirdly:* He should generally discourage the perpetuation of minor honours and offices, which curiously so many men seek, in order that those who ultimately hope to succeed him in the chair may obtain some experience and training for the higher duties which in the ordinary course they will be called upon to fulfil. *Fourthly:* He should have no leaning or bias towards any dominant or other section of the body over which he presides. *Fifthly:* He should rule absolutely impartially, and should in regard to the permissive powers with which he is endowed, exercise them with strict impartiality, and endeavour, always, to elicit and respect the reasonable views on any subject of those around him. *Sixthly:* He should avoid impatience of the views of others, nor impute unreasonableness or motive to those who may, rightly or wrongly, hold views contrary to his own.

I don't pretend to have dealt with this aspect of the subject fully, time and space will not avail for this, but I have, I think, sufficiently defined the respective duties and obligations to allow of the preliminary aspect of the matter being grasped. Manifestly, mutual obligations and duties prevail. Each must respect the other, and each may justly be jealous of his rights and privileges. It may be put allegorically and succinctly, yet clearly, by saying that the chair to the governing body is *in loco parentis*; as the parent by nature, social custom, and unwritten law is entitled to the respect, esteem, and, for the most part, to the obedience of the child; yet in regard to many parental injunctions disobedience on the part of the offspring would be regarded as a virtue; similarly in regard to the chair, obedience is no doubt the settled rule, and should be departed from only in those cases in which obedience would involve the dignity and self-respect of the member attacked, or of the assembly of which he forms part. Will my readers please understand that in dwelling at some length upon this aspect of mutual and respective obligations, I am not for one moment, so far, either admitting error on my part, or attributing it to others. I am only clearing the air for the understanding of a subject which is certainly not free from difficulty, and may be from some doubt. The question of error can only be determined as a fact, from an examination of the language indulged in, and the circumstances in relation thereto. Clearly, too, we have to avoid the very common belief amongst the untrained, that personal retort is argument, or that sarcasm and cynicism constitute proof of truth.

Before I close this first article I want to say a word or two further upon the leading article which appeared in *The Veterinary Record* of the 13th inst. upon the subject now under discussion. I want to avoid harshness of expression, because I know the gentleman who wrote that article would not intentionally be discourteous or unfair to another member of his profession. He has, I think, thoughtlessly—maybe unwisely—accused me of wasting the time of the Council, and of holding views of an unreasonable nature. It may be so, of course, men are fallible; but in any event, I have had twenty years of Council work, and for many years have been engaged in a mental atmosphere to which he has never probably even aspired. To say the least of it, I am entitled to retort that under such circumstances prudence in judgment would have exhibited greater wisdom. This gentleman must have thought my views were unreasonable and absurd, and that my conduct to the chair was a gross breach of etiquette, otherwise he would not have written as he did. If this were so, he had an easy case to expound, and a convincing argument to adduce; and clearly, having regard to his position as the leader writer of *The Veterinary Record*, a periodical which has acquired, and rightly acquired, some influence in the profession, it was his essential duty to show by argument, or an intellectual treatment of the subject how erroneous my views were. May I suggest to him, maybe for future guidance, that to an intellectual mind personal retort or abuse proves nothing, and is anathema to the really trained journalist.

With these observations, in view of your limited space, I will close the first article by asking permission in a further paper to analyse the proceedings of the last Council meeting, with a view to apportioning the blame in accordance with the principles and deductions herein enumerated and expounded.

[We regret that we cannot see our way to accede to Mr. Barrett's request for further space in our columns. Like Mr. Barrett's hypothetical Chairman, an Editor has duties—the first of which is to his readers. The Council met to conduct the business of the profession—not for an exhibition of dialectics; and we consider that the discussion in question was "needless and wholly unprofitable." In the matter of wisdom and of etiquette we sit humbly to learn at the feet of Mr. Barrett.]

ABSTRACTS FROM FOREIGN JOURNALS.

Recommendations against White Scour—especially of Calves.

The following is a summary of an article by A. T. Kinsley in *The American Journal of Veterinary Medicine* for 1917.

White diarrhœa is a very mortal disease in recently born animals, the principal symptom of which is an abundant diarrhœa with white or whitish dejecta. The disease attacks all animals, but is most common in calves. It has been studied in Denmark, Holland, Germany, Belgium, Italy, France, England, Ireland, and America. All investigators agree that it is a bacterial disease, and the etiological *rôle* has been attributed to the following microbes:—*bacillus abortis*, *b. coli communis*, *b. ærogenes*, *b. paracoli*, *b. pyocyaneus*, *b. proteus*. *b. bipolaris*, and various pyogenic micrococci.

The *b. coli communis* is the most common bacterial invader in these cases. All the bacteria mentioned are encountered in the excrements of cattle and other animals, and consequently infection of the newly born is accomplished with facility. The most frequent routes of infection are the digestive tube and the umbilicus. More rarely infection may

take place through other channels, such as the respiratory and the uro-genital tracts.

Knowing the causal agents and the course which the infection follows, it is not difficult to recognise the existence of the disease. The following measures are sufficient to combat it:—

Sanitary measures.

1. Convenient disposition of yards, etc., with a good drainage.
2. Construction of buildings of a form which may easily be cleaned and kept clean.
3. Provision of clear and potable water.
4. The cow should be maintained in a clean condition, before and for some time after parturition.
5. The place where the cow is kept should be cleansed and disinfected before the parturition, and, if used for the occupation of the cow and calf, from one to three days afterwards.
6. The lodging of the calf, if separated, should be kept clean and disinfected till the calf attains the age of one month.
7. The possibilities of infection of calves that suck are diminished by keeping the mammæ and teats of the cow clean.
8. If the calf is hand-fed, the hands of the feeder should be kept free from infection, to prevent infection of the milk.
9. Quarantine of all infected animals.
10. Immunisation of the cow just before parturition by the injection of two or more doses of mixed vaccine.
11. Immunisation of the calves with mixed bacterins, on the first day of life.
12. Give the colostral milk of another cow.
13. Appropriate food at suitable intervals.
14. Persistent employment of intestinal antiseptics.
15. Isolation of the animals at the first indication of the disease.

Curative measures.

When the infection has already declared itself, the following measures are advised:—

1. Production of temporary immunity by polyvalent serum. This method does not always give good results.
2. Immunisation by mixed bacterins. This method has been proved to be of little value in acute cases.
3. Employment of intestinal antiseptics, and, when they are indicated, of laxatives, stimulants, or other medicaments.
4. Careful regulation of the diet.

TINCTURE OF IODINE IN TREATMENT OF WOUNDS.

Tincture of iodine is employed largely, and perhaps excessively, in the treatment of wounds both in man and animals. Artom, an army medical officer, writing in *Policlinico*, forecasts a limitation of its use, and advances arguments in support of his views.

For years past, painting with tincture of iodine or with iodised benzol has been universally adopted in major surgery as the sole preparation of the operative field, in substitution for the complicated practice formerly in use. The recognised utility of the agent in the sterilisation of the skin may give good service in the first treatment of sterile wounds, because, applied around the lesion, it may secure it from septic germs which might be transported to it from the surrounding skin.

Is the application of tincture of iodine upon the wound itself useful? That it may sometimes be used with advantage, on account of its slightly caustic and histiogenetic action, is known. But if it is efficacious sometimes to stimulate torpid tissues, other agents, such as hydrogen peroxide and the hypochlorites, are much more adapted for the purpose; while, on the other hand, tincture of iodine may cause bad results.

Often when the lesions are of minimal seriousness, the irritation produced around them by tincture of iodine may greatly exceed the importance of the lesions themselves. At other times the liberal application of tincture of iodine, not upon the margins and circumference of the wound, but upon its surface, has caused a superficial necrosis with the formation of an eschar or thin layer of coagulated albumen, under which germs have an excellent opportunity to develope.

Sometimes the dermo-epidermites caused by the microbes of wounds developing upon skin damaged by antiseptics, and especially by tincture of iodine, even lose their local character, and cause diffuse or secondary lesions at a distance.

Further, the repeated chemical irritation of tincture of iodine upon the margins of wounds sometimes renders them hard and callous and impedes extension of epithelium. It must also be remembered that tincture of iodine, in contact with air, not long after its preparation, forms hydro-iodic acid, the irritant effects of which are much more pronounced than those due to fresh tincture of iodine.

The author adds one or two other reasons, such as the present cost of iodine, potassium iodide, and alcohol, especially the first two, in support of his proposal to reduce the use of tincture of iodine to within the limits beyond which its advantages are problematical.—(*La Clinica Veterinaria*).

W. R. C.

A NOTE ON DOURINE.

By Colonel H. T. PEASE, C.I.E., V.D., I.C.V.D.,
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(Continued from p. 430.)

History. The first notice of the disease is that given by the German veterinarian, Ammon, in 1796, and again in 1799, he observed it in the district of Trakehnen, North Prussia, affecting mares and stallions. It persisted in this locality until 1801, when Count Lindenau, master of the horse to the King of Prussia, caused it to carefully studied by Reckleben, and two years afterwards (1803), Ammon and Dickhauser gave an excellent description in *Tennecker's Gazette* (Vol. III). From 1801, the malady disappeared from Prussia, but extended northwards, causing much loss in Lithuania, and returning again to Trakehnen in 1807, where it once more came under the cognisance of Ammon.

Such is the early history of the disease; but it was believed to have been seen in Southern Russia before this period, and Renner mentions that it prevailed among the horses in the Imperial stud at Skopin and in the Government of Kazan, Pottchinkoff, and Nischnei-Novgored, where it was studied by Kersting, and to which it is said to have brought by English stallions. Doubts have been entertained as to the reliability of Renner's statement.

In 1815, Woltersdorf, veterinary surgeon of the Bomberg District, Austria, observed it in the neighbourhood of Wanhau; and Havemann, Director of the Veterinary School of Hanover, remarked it in 1816 in a stallion in the vicinity of Blockley, Hanover. This animal infected several mares, which, in their turn propagated the malady; so that it prevailed in that country until 1820. In 1817-18, it again showed itself in Lithuania and re-appeared in 1819 towards the Austrian frontier, at Oberschliessen, district of Liebschutz. In 1821 near Steiermàrck and Pharau, it attacked a large number of animals; it also broke out in Silesia and at the stud of Lembus. In Styria, it pursued its course as a veritable epizooty.

In 1826, it re-appeared in Silesia in a small number of animals and in benignant form. From 1827 to 1830, it caused a great mortality in Bohemia; and in the spring of 1830, it appeared for the first time in Switzerland, in the Canton of Berne.

In 1833, it again broke out at Oberschliessen, in provinces of Liebschutz and Oeltz in Upper Silesia: in 1836 it was particularly severe in the latter province, in the districts of Striegau, Oeltz, Grotthau, Beissz, Fauer and Friestadt.

Pomerania was visited with benignant form in 1839, and in 1840 it re-appeared in Silesis on an extensive scale, and in a malignant form, in the districts of Bartenstein and Schippenbeif; and again in 1841, it was seen at Gumbinnen and Lithuania. In Wurtemberg some mild cases were observed.

The disease had now assumed such serious proportions and was causing so much alarm in the stud-farms and among private horse-breeders, that several legislative enactments were adopted and enforced: at the same time veterinary surgeons were beginning to devote their energies towards investigating its nature and the most efficient prophylactic measures to be devised against it. These checked its progress in Germany, and the cases that subsequently occurred were less serious.

In 1847, it was reported in Algeria by the French Military Veterinary Surgeon, Signol, who saw it in the province of Constantine, and who described it as an "Epizootic paraplegia" that had appeared among the horses of the Rigas tribe. Not aware of the existence of the malady on the European Continent, he designated it by one of its chief symptoms, he also mentioned that the Arabs had long been acquainted with it, that it appeared in a serious form every fifteen or twenty years, and that one of these crises—the one to which he was a witness in 1847, destroyed six hundred horses. The disease has continued in Algeria. General Dumas, author of the "Chevaux du Saraha," alludes to the frequency and ravages of the disease among the horses of the tribes in the province of Constantine; and Bonjol, another Army Veterinary Surgeon, reports it as causing great havoc in the Bhiras tribe. In 1852, it carried off a large number of mares in the circle of Bou-Arreridj, and in 1853, it prevailed in the circle of Setif.

It was not until the spring of 1851 that in France, among the brood mares in the plain of Tarbes, it for the first time attracted the attention of French veterinary surgeons; it was chiefly studied by Roturior and Louchard, Military Veterinary Surgeons, and by an official commission. The malady was located in thirty-one communes around Tarbes, containing 1874 mares. In December of that year, Louchard recognised it in 127 mares which had been put to Government stallions, and to stallions belonging to private individuals. The first had covered 750 mares, and 100 became diseased; the other 27 were infected by private stallions. Out of the total number 52 died. It had nearly ceased in the following year. In 1852, the disease appeared in the Valley of Lourdes, and near Argeles; and Profs. Yvart and Lafosse, of the Veterinary School of Toulouse, undertook, by a series of experiments, to demonstrate its contagiousness. It re-appeared in some mares and stallions at Tarbes in 1856, 1857, and 1858, and at this period it was studied by Reynal, Director of the Alfort Veterinary School. It also manifested itself again in 1861.

Trelut, Veterinary Surgeon to the Stallion Depot at Tarbes, in two able memoirs on the subject, traces its advent to the importation of a stallion from Syria in 1851, and again by two other stallions from the same country in 1861. He asserts that it was perhaps perpetuated in the South of France, because it there found itself in a climate resembling that of Syria, where it nearly always prevails; and also because no steps were taken to eradicate it thoroughly.

The disease has been carefully studied in France by St. Cyr. Trasbot, Laquerrierre, Beuise, and Nocard. From time to time dourine is imported into the Basses Pyrenees by mares which have passed the summer in the mountains in the pastures and which have been covered by infected Spanish stallions. According to Schneider and Buffard it appears on the Spanish frontier every year.

In 1875 to 1881, dourine was found in the Hungarian stud and was studied by Prof. Von Thanhoffor of Budapest and it has recently been prevalent in Austria and parts of Germany.

An outbreak occurred in the De Wett country of Illinois in 1882, but its nature was recognised only in 1886, by Dr. W. L. Williams. It is reported to have made great ravages.

In 1892 there was an outbreak among the breeding horses in North Western Nebraska, and it again appeared there in 1899.

In 1901 the infection re-appeared with increased vigour, this time in the Pine Ridge and Rosebud Indian Reservations in South Dakota where its eradication was extremely difficult, owing to the wildness of the country as well as of the horses, and the fact that many horse owners would try to conceal them from the inspectors. In 1903 it was reported in the Van Buren County, Iowa. Another outbreak was discovered in Taylor County, Iowa, in 1911. The diseased animals together with all exposed stallions were quarantined by the State and the disease eradicated. In July, 1912, it appeared in Eastern Montana, the outbreak being more extensive than any of the previous ones, involving the two Indian reservations in North Dakota and South Dakota, and a force of twelve Federal veterinarians assisted by State representatives were at work on the disease, which was well in hand in 1914.

At the present time it occurs in Europe, in Spain (particularly in Navarre), and to a less extent in Hungary and South Russia; also in Turkey, which imports many horses from infected districts, also in Rumania where it has recently been studied by Marek, also in Germany.

According to Laveran and Mesnil the disease exists along the whole south littoral of the Mediterranean Sea, in Morocco, Algeria, Tunis, Tripoli, Syria, and probably throughout Asia Minor and in Persia.

It occurs in India and in Java, where it was described by De Does as occurring in the Government studs at Soemedang.

It was also discovered in 1904 at Lethbridge in Canada, has since prevailed in certain districts of

Southern Alberta and in one locality in South-Western Saskatchewan, and its true nature has been demonstrated there by Dr. Watson, after having been first discovered in 1904 by Chief Veterinary Officer, Burnett, at Lethbridge.

In India no reliable history is available, but from enquiries made from breeders and from the information gained by consulting available records, it may be concluded that it has been present in the country for many years. Such of the earlier records of the Horse-breeding department as are available contain records of cases which were obviously dourine, and year by year stallions were destroyed which presented marked symptoms of the disease.

In 1885-1886 it was recorded in the casualty list of the Annual Administration Report of the Horse-breeding Department that No. 1628 Badminton H. B. E. died from "Mal de coit." This is the first recorded diagnosis of the disease to be found in the records, and it seems extraordinary that its contagious nature was not recognised and that it did not seem to have attracted any attention whatever. Long before this time, and ever since, cases of chronic disease of the sheath and penis, paraplegia, loin disease, and the like, which were most likely dourine, have been recorded in casualty lists.

Judging from such history of the subject as is available, it is very probable that dourine was introduced into the studs many years ago by foreign stallions, and that it was the cause of many of the recorded cases of "Kumri" or paraplegia among breeding stock. It continued up to the year 1904 owing to the use of infected stallions and mares in certain districts in the United Provinces, especially Bulandshahr, Aligahr, Agra and Muttra, part of Gurgaon, and those parts of the Meerut District near the old stud at Hapur. It does not appear to be an indigenous disease in the Punjab, Baluchistan or Bombay, but it has from time to time been carried to districts or stands in these provinces by the transfer of diseased stallions to them from infected areas in the United Provinces.

The true nature and method of spread of the disease in India was not suspected until 1902, and the fact that it is a contagious malady spread by coitus was not generally recognised. Fortunately, however, a stallion was generally thrown out of work when the symptoms were marked; hence it was not spread so rapidly as would otherwise have been the case. The unfortunate thing has been that a certain number of infected stallions remained at work and mares affected were not dealt with, so that the malady continued to spread and consequently the losses from deaths and sterility have been very considerable indeed.

When the disease was definitely diagnosed in 1902, and its true nature and importance realised, it was found that many stallions had for some time been suffering in various parts of India [and [that some districts had long been badly infected. Twenty stallions had been destroyed for dourine from 1899 to 1901. In 1902 to 1904 fifty-seven Government stallions as well as a number of private animals, both horses and mares, were found suffering and destroyed. In addition to these a number of infected stallions have been castrated and sold by auction. No records of the disease amongst mares and stallions, the property of private owners, are available.

The stands in the Bulandshahr and Meerut Districts near the Hapur Stallion Depot at Babugahr have been constantly infected for many years, and considerable numbers of stallions have been lost at Cherawak in Bulandshahr. The reason for this is that when a horse had been attacked and had come into fair condition again, he was often sent to the nearest stand to the depot, so that he might be easily inspected and kept under observation. Such stands, therefore, received a constant supply of infected horses, and in consequence many mares in the neighbourhood became diseased. It was from such stands, too, that infected animals were sent to other districts for change of climate. It wasa common practice to send an ailing stallion from a damp to a dry climate, in order that he might benefit from the change of air, and undoubtedly the disease was spread in the Punjab and Dera Ghazi Khan District in this way.

As to the priority of diagnosis in India as above stated the occurrence of dourine was recorded in the reports of the Horse-breeding Department in 1885. Lingard claims that certain symptoms exhibited by a country-bred mare pointed to the fact that she might be the subject of covering disease, and that in July, 1901, he recognised a case in an Arab stallion: but he did not confirm the diagnosis, nor did he demonstrate the causal parasite. It is significant, however, that at this time a considerable number of cases existed among the stallions belonging to the Horse-breeding Department, but nothing was said of the importance of dealing vigorously with the disease.

As a matter of fact it was not until we had definitely diagnosed it in stallions at the Punjab Veterinary College, had demonstrated the presence of the trypanosome, and had experimentally transmitted it by coitus and inoculation, that there was any certainty as to the existence of the malady in India. The report submitted to the Government of India in 1902 drew attention to the great importance of the subject (1) as it seriously affects the horse-breeding industry, being contagious, and leading to numerous deaths and to sterility both in the mares and stallions, (2) as it is very difficult to detect and [diagnose, especially in the early and late stages, (3) because it is very insidious in its attack and usually chronic in its course, the affected animals being capable of themselves infecting others although at times showing no distinctive symptoms.

In the year 1903 I was deputed by the Government of India to ascertain to what extent dourine existed and to suggest measures for dealing with it. An extensive tour in the districts known to be infected was made and as the result of the measures taken it was stamped out in those districts. All infected stallions were destroyed, and no case again occurred in them until 1915, when a few cases were detected on the borders of Baluchistan in the Dera Ghazi Khan District. At the same time it came to light that dourine had become wide-spread in Baluchistan, and eight or nine Government stallions had been attacked, some of them continuing to serve for a long time before it was suspected, and consequently many mares must have been infected by them. It is unfortunate that Baluchistan was reported not to be an infected district and was not visited in 1902.

Symptoms.

Some authors adopt an arbitrary division of the symptoms of this disease into three phases, *i.e.*, œdematous, eruptive, and paralytic.

In the great majority of cases the disease does evolve in this manner in imported horses in India; but from what follows it will be evident that only one symptom can be insisted on and that is the recurring œdema at the seat of inoculation or infection. The appearance of the important symptoms does not always follow in definite sequence, nor need one set of symptoms disappear before the others appear. The course which the disease will run depends so much on the virulence and number of the trypanosomes introduced, and on the susceptibility or otherwise of the animals. A very great deal also depends on the acuteness of the observer, the opportunities he has of watching the cases, and the

experience he has had of the malady. In some cases the symptoms may be so slight as to easily escape observation, and no definite course can be laid down.

I think that we may profitably divide the symptoms exhibited in the course of Dourine into those referable to the generative organs, the lymphatics, the skin, and to the nervous system, and may, for the sake of convenience of description, divide them into:—(1) Changes in the genital organs and structures in close apposition. (2) Cutaneous lesions. (3) Lesions of the central nervous system.

In carefully observed cases in India they generally follow this order; but it is obvious that in some cases (2) may appear without (1) having been discovered owing to no marked external swelling having taken place, and (3) may be the first symptom seen, the other two having escaped notice. It is quite a common thing, especially in Indian country-bred horses, for the symptoms of (3) to be slight or not noticed: and this appears to be the case in other countries as well. Paralysis occurs as a rule only in the severe cases.

Watson, writing of the disease as it occurs in Canada, remarks that the regular evolution of the disease has been the exception rather than the rule, and he thinks that the following notes may serve to put the diagnostician on guard.

"In the case of a mare, a stabled animal, and, therefore, under daily observation, the first visible signs of disease were symptoms originating from the central nervous system, which belong, according to the arbitrary division, to the 'third stage.' These indications were followed by the first stage, namely, tumefaction of the genitalia, sexual excitement, etc. The first appearance of symptoms belonging to the second stage, namely, patchy infiltrations of the skin—the so-called plaques, were concurrent with the nervous manifestations, and have later appeared when only a trace of the 'first' and 'third' stages remains.

In the case of an experimental animal the disease ran an acute course, and terminated fatally 139 days after infection. Nervous symptoms predominated throughout.

In the case of another experimental animal, Dourine parasites were present in the vaginal mucus, at irregular intervals, from the 85th to the 229th day after infection, yet only at the end of this period have there appeared any visible signs of disease, these were more or less indefinite, and limited to a slight tumefaction of the vulva and a somewhat swollen, anæmic, vaginal mucous membrane.

These may be extreme cases, but others can be cited. It is only necessary to emphasize the fact that in Canadian Dourine symptoms may appear shortly after, or not for a very long period following infection; or that they may abate or disappear for equally long periods at any stage of the disease, and lastly, that loss of co-ordinate locomotion or other signs of nervous derangement may be the first and only signs of the disease detected."

This is generally in accord with the recorded views of European observers. Reynal states that the swelling of the sheath and enlarged inguinal glands may remain the only symptoms visible for 8, 10, or 12 months. But patches may appear during any of this time. Nocard and Leclainche say that in some animals the evolution of the disease appears to stop for a considerable time, especially in young and well conditioned animals which are rested and well fed. Fleming states that in young, vigorous, well kept horses the malady may continue localized for a very considerable time.

Schneider and Buffard speaking of the Algerian type state that they are led to the conclusion that symptoms may actually disappear and remain absent for a considerable time and re-appear. My own observations in India tend to confirm this.

Maresch has remarked that the examination of a horse in the paralytic stage may then show only the paralytic symptoms, and that the re-appearance of patches or œdema afterwards will lead to the supposition that they are secondary and not a primary symptom, whereas they really are primary. In the second case quoted, although paralysis was the most prominent symptom others were apparently present. In the third case the symptoms appeared in the right order although delayed.

In India we have noted no wide divergence from the symptoms described by Schneider and Buffard as occuring in Algerian Dourine; with the exception that the trypanosome appears to have had its virulence considerably modified, so that the disease produced is somewhat less acute and the number of recoveries greater. In carefully observed experimental cases it has been found that in naturally acquired cases evolution of the disease in the stallion generally commences by changes which are limited to the genital organs.

(To be continued).

The fallacious Milk Standard.

The unusual feature in this case is the very definite evidence of Mr. Wm. Robb and Dr. Drinkwater.

"On Wednesday, the 10th inst., Sheriff-Substitute MacKenzie, Glasgow, heard evidence in a prosecution at the instance of Dr. Patterson, Hamilton, on behalf of the Lanark County Council, against Mr. Alex. Morton, Stepps Farms, Stepps, who was charged with having on 30th January last sold sweet milk deficient in fat to the extent of 9 per cent., the figures being, fat 2·73; non-fat 8·47.

Dr. Patterson gave evidence to the effect that the milk in question could not be the genuine milk of a herd of cows. He had known milk of single cows falling below the figures, but never the mixed milk of a herd. The County Council had carried out certain experiments which he produced, showing that the mixed milk of a herd was invariably above the standard. He also produced the results of one county council experiment, tending to show that milk in course of distribution from the cows to the consumer did not vary materially in composition. Mr. R. M. Clark, public analyst, Glasgow, proved the official analysis, but was not examined or cross-examined as to whether the milk could be genuine or not.

For the defence, Mr. Morton and a servant, being the only persons who handled the milk in question prior to sale, were examined. Both stated that the milk was sold as produced by the cows without adulteration. The milk came from twelve cows, half of them recently calved, and was morning milk drawn at uneven milking intervals, namely, eleven hours and thirteen hours respectively. The official sample was taken from milk which first of all stood in the barrel containing about seven gallons for about an hour before the cart left the farm, and thereafter the cart was about 1½ hours on the road. The sample was taken from about two gallons left at the time.

Mr. John Findlay, Springhill, Baillieston, in giving evidence as an expert witness, said that the official figures were quite consistent with genuine milk from a herd; that morning milk was invariably poorer than evening milk, particularly where, as here, the milking intervals were uneven, and that the composition of milk materially altered from time to time in course of distribution. He quoted experimental data in his own experience and the experience of others to support his contentions.

Mr. Wm. Robb, V.S., Glasgow, said he had been instructed by Mr. Reid (defendant's solicitor) to take

samples of the milk from respondent's cows under certain conditions, and he did so on two occasions. On neither occasion did the respondent know he was coming. On the first occasion he saw the cows milked in the morning, followed the milk from the byre to the cart, and thereafter on the journey, during which he took three spigot samples—the first from the full barrel, the second from the half empty, and the third from the barrel when down to two gallons or so. These when analysed by Dr. Drinkwater were found to stand at 2·18, 2·20, 2·55. In other words, although the milk was certainly genuine all three samples differed, and all three were below the standard. On the second occasion the same procedure was followed, excepting that the third sample was taken from the dregs of the barrel, which had to be tilted to run off the milk. The analytical results were—first sample, 3·07; second sample, 2·70; third sample, 3·46

Dr. Drinkwater, Edinburgh, corroborated Mr. Findlay's evidence, and spoke to analysing the samples taken by Mr. Robb.

In giving judgment, the Sheriff said that, apart from other considerations, he saw no reason to doubt the truthfulness of the respondent and his servant girl in swearing that the milk was unadulterated, and that was enough for a decision of the case. But the evidence otherwise satisfied him that genuine milk, from causes such as those spoken to in evidence, could fall below the presumptive standard, and he thought that the deficiency in this milk had been satisfactorily explained. He therefore acquitted."—*North British Agriculturist.*

Congenital Goitre in Goats.

During the last twelve years Major Robert McCarrison, I.M.S., has published a large amount of interesting and highly valuable original work on the causation of goitre. Quite recently he has reported (*Indian Journal of Medical Research*) the results of his experiments on the production of congenital goitre in the goat, carried out at the Central Research Institute, Kasauli, India, in the years 1913 and 1914. His view is that endemic goitre in human beings in India is an infective condition, due to a *contagium vivum* of unknown morphology that has its habitat in the alimentary tract. He has shown that a similar disease can occur in white rats, and that nearly two-thirds of the offspring of goitrous white rats are born with congenital goitre; this goitre is due to the action on the fetal thyroid gland of toxic substances derived from the maternal intestine. The research now reported is a continuation of the same line of work, with goats as the experimental animals instead of white rats.

Twelve healthy female Punjabi goats were penned and stabled together, rendered goitrous by the administration of cultures of microbes grown from the faeces of goitrous individuals, and covered by a healthy male imported from a non-goitrous locality. Eleven of the twelve bore kids, all of which were goitrous, and ten were stillborn, ill-developed, and hairless; these eleven large congenital goitres proved sterile on aërobic and anaërobic cultivation. Four control non-goitrous goats, fed with clean food and water, and kept muzzled to minimise the chances of accidental infection, gave birth between them to three kids that were free from congenital goitre. Four other control animals were similarly fed but not muzzled; two became goitrous, the other two did not, and between them these four animals produced three kids, two of which had small congenital goitres.

A further experiment was carried out with one of the laboratory goats belonging to the Institute. The animal had a considerable goitre, and Major McCarrison successfully performed a right-sided thyroidectomy on it. It was then impregnated by the same male, and in due time gave birth to a healthy non-goitrous kid. The conclusion to be drawn from these researches is:—That congenital goitre in goats is due to the action on the fetal thyroid gland of toxic substances derived from the maternal intestine. These substances are the products of microbes originating in faecally-contaminated soil which are conveyed to man and animals by infected food and water. The toxicity of the cultures administered to the twelve first-mentioned goats must have been very great, for the congenital goitres produced were, as a rule, of large size, as is shown by photographs reproduced in Major McCarrison's paper, and the offspring showed gross evidence of development retarded or brought to a premature close.—*Brit: Med: Jour.*

ARMY VETERINARY SERVICE

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, April 18.

REGULAR FORCES ARMY VETERINARY CORPS.

Temp. Lieut. to be temp. Capt.:—W. K. Clark (Apl. 2)

April 19.

Vet. Maj. J. A. Meredith, ret. pay (Res. of Off.) relinquishes the temp. rank of Lt.-Col. on ceasing to be empld. as Asst. Dir. of Vety. Servs. (Apl. 16).

April 23).

To be temp. Hon. Lt.:—W. E. Stribling (Mar. 30).

April 25.

Temp. Lts. to be temp. Capts.:—J. T. Angwin (Apl. 9); W. Davies, J. F. Lavery, W. G. Bentham, H. J. Watt, H. L. Forbes, H. L. Caldwell (Apl. 11).

CANADIAN A.V.C.

April 13.

Asst. Dir. of Remounts.—(Graded for purposes of pay as an Asst. Dir. of Vet. Servs.)—Temp. Capt. A. E. Frape relinquishes his appt. and grading (Mar. 12).

Dir. of Vet. Servs. and Remts.—Temp. Brig.-Gen. W. J. Neill relinquishes his appt. (Mar. 12).

April 22.

Graded for purposes of pay as a Dep. Asst. Dir. of Vety. Servs.:—Temp. Capt. W. G. Stedman relinquishes his grading and the actg. rank of Major (Mar. 22).

Asst. Dir. of Vety. Servs.—Temp. Capt. F. Walsh, relinquishes his appt. and the actg. rank of Lt.-Col. (Jan. 19). (Substituted for the notification in the *Gazette* of Feb. 8.)

April 24.

Temp. Capt. E. A. Watson to be secd. while spec. empld. (Jan. 29, 1917).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

April 19.

Maj (temp. Lt.-Col.) G. C. O. Fowler, ret. pay (R. of O.), relinquishes the temp. rank of Lt.-Col. on ceasing to be empld. as A.D.V.S. (Mar. 16).

April 20.

Capt. to be Maj.:—W. Awde (Apl. 1).

[It appears that in the extract from *The Gazette* which we reprinted last week, p. 432, under T.F., April 12, the initial of Major Abson, D.S.O. (of Sheffield), should be J. —not as there given, S.]

On the invitation of the President of the Board of Trade, the Commercial Motor Users' Association has nominated Mr. Walter Wolsey, jun. (of Messrs. Thomas Tilling, Ltd.), and Mr. G. Bristow, F.C.I.S., Secretary of the C.M.U.A., to serve on the panel of eight motor transport experts who are to act as a Central Advisory Committee to the newly formed Road Transport Board.

The diagnostic character of Effusion in Melanotic Sarcoma.

In the *American Journal of the Medical Sciences* Dr. C. C. W. Judd has, some months ago, called attention to the diagnostic character of the effusion of melanotic sarcoma. In two cases the usual characteristic signs—melanuria, pigmentation of the skin, or suspicious tumour of the skin or choroid—were absent, but fluid obtained by paracentesis showed almost identical appearances. When agitated it was quite opaque, even in thin layers. On standing, a dense, dark, brick-dust sediment formed, while the supernatant fluid, though intensely pigmented, was clear and of a dark reddish-brown colour. The surface layer was slightly irridescent, with a predominant greenish tone. The foam obtained by shaking had a tendency to a pinkish hue in the first case and to a dirty olive green in the second. The supernatant fluid when tested with perchloride of iron gave no reaction for melanogen, but on addition of bromine water a yellow cheesy precipitate formed, which became much darker on standing, and finally black, indicating that the formation of melanin from melanogen had been completed during life. Tests for bile pigment were negative. Microscopically the sediment showed red corpuscles, epithelial cells, numerous leucocytes, and many tumour cells containing the typical pigmented granules of melanoma.

In the first case the patient, aged 40 years, began to spit blood on May 1st, 1914, and to lose weight and strength. Examination on May 15th showed at both apices loss of resonance, prolongation of expiration, and numerous fine râles after coughing. Early tuberculosis was diagnosed. She improved, but continued to expectorate sputum streaked with blood for eight months. The sputum was repeatedly examined, but never showed tubercle bacilli or any cells suggestive of malignant disease. On Jan. 6th, 1915, there was slight pain on the left side, and a few days later a gurgle within the chest. Ten days later there was dullness at the left base. Hydropneumothorax was, diagnosed and puncture showed the effusion to be "bloody." On Feb. 13th paracentesis was performed to relieve pressure symptoms. Twenty-four ounces of coffee-coloured fluid were removed. Reaccumulation necessitated a repetition of the operation about every five days. The fluid obtained on Feb. 24th was the first to reach Dr. Judd, and had the characters given above. At the site of the first puncture a pigmented growth developed. Death occurred on April 6th. The necropsy showed melanoma of the lung.

In the second case the patient was a very dark man, aged 34 years, who suffered from great abdominal enlargement. There was almost general dullness. Paracentesis yielded three litres of coffee-coloured fluid, with the characteristics given above. In the right upper quadrant a firm indefinite mass was then felt. Two days later the skin, which had been dark and slightly sallow, showed numerous small dark moles. As the patient was relieved he insisted on leaving hospital.

Mountain Sheep.

Probably few people are aware of the enormous preponderance of the mountain breeds, for when compared with the large varieties at our agricultural shows they appear almost insignificant in number as in size.

When the report on the Census of Production Act was prepared estimates were made of the numbers of sheep of each British variety, and although the data on which the figures were founded must have been very incomplete, it appears that of the total of 27 millions included, over 5,000,000 were Blackfaces alone, 2,650,000 Cheviots, 2,000,000 Welsh, and 1,173,000 "Scotch," probably mountain bred, and 531,000 Herdwicks, quite apart from Lonks, Dartmoors, Exmoors, Limestones, and other types of pure and cross-bred sheep. Thus more than one-half of the sheep in England, Scotland, and Wales consist of mountain varieties.

The importance of these figures is greater than appears at first sight. The Cheviot, for example, has established its claim to be the best mutton variety, if we may judge by the marvellous position which it has long taken in the carcase classes at Smithfield. There are no such collections of meat, with such large proportions of fine lean joints as these sheep present, and what is true of the pure breed is true also of the cross.

The alien breed used in a half-bred flock fed for a large butcher who insists on a carcase which must not exceed a given and comparatively small size, is of the Welsh mountain variety, and it makes beautiful mutton. This flock is fed entirely upon grass, with a little cake for finishing: but it may be pointed out that the grass land has been brought to a high state of perfection, not only with the assistance of the flock, but of unusually liberal artificial manuring.—*Live Stock Journal.*

An advance in pig rearing.

Mr. Sanders Spencer, writing to the *Live Stock Journal* a week or two ago, says:—When the new system of milling was adopted the supply of sharps, or whatever this finest of milling offals is locally termed, was considerably reduced, and, what was perhaps still more important, the quality of the reduced out-turn was most seriously affected. Many pig men came to the conclusion that the rearing of pigs was seriously affected, whilst some few others, who are evidently of the class who believe that troubles are made only to be overcome, set about finding some other form of feeding to take the place of the sharps. One of these attempts, and apparently a successful one, has recently been related to me by a friend, who wrote: "I have discontinued feeding pigs on slops, giving instead palm nut meal chiefly, with chopped rape and cabbages and lucerne. They have eaten a great quantity of this green food, having entirely cleared up all we had grown. Latterly they have had boiled potatoes and boiled swedes, with the green stuff and the meal. Now they will have boiled swedes and mangels mixed with the meal, as the green stuff is all gone. They seem to thrive on this food and like it, going to rest after each meal. I could see no use in giving them such large quantities of plain water with the meal."

I might add that the practice there is mainly that of breeding pigs and selling them as soon as possible after they are weaned from the sow, so that under the old system a comparatively large quantity of sharps would have been necessary.

ANGLO-FRANCO-BELGIAN VETERINARY RELIEF FUND.

British Committee.

Chairman: F. W. Garnett, C.B.E., J.P., M.R.C.V.S.
Hon. Treasrs.: J. A. W. Dollar, M.R.C.V.S.
T. Salusbury Price, M.R.C.V.S.
Hon. Secs.: Sir Stewart Stockman, M.R.C.V.S.
Fred Bullock,
10 Red Lion Square, London, W.C.

"Unskilled pretenders to the Veterinary Art."

In the February part of the *Sporting Repository* for 1822 the following appeared :—

"Through the practices of the unskilled pretenders to the veterinary art—the ignorance of grooms who purge, bleed, sweat, and cripple one-half at least of the horses entrusted to their care—and the relentless and wanton cruelties to which they have been exposed, this noble animal finds in man his greatest enemy! The establishment of the Veterinary College, under the inspection of Professor Coleman and other gentlemen of science, has been productive of much real benefit; there are yet, however, a vast host of pretenders to the art, who veil their ignorance with the impenetrable covering of mystery, and who evade all questions by a nod or shrug of the shoulders; to extirpate such characters from so valuable a profession is an object 'most devoutly to be wished.' If gentlemen would think and act for themselves, instead of submitting their better judgment to these intuitive geniuses, the eye of science, guided by nature and reason, would soon detect the great impositions to which they are continually subjected."

OBITUARY.

DANIEL SPILMAN, M.R.C.V.S., Lower Hutt, N. Zealand. Graduated, Lond: April, 1873.

Mr. Spilman died 3rd February, 1918.

JAMES WILSON, M.R.C.V.S., Nantwich, Cheshire. Glas: April, 1877.

Death occurred 28th March, 1918, aged 60.

THE LATE MRS J. WILLETT.

We announced last week the regretted death of the wife of Mr. John Willett, M.R.C.V.S., of 6 Harley Place, Harley Street, W., which took place in a Nursing Home on Sunday, the 14th inst, after a protracted illness borne with great fortitude and patience.

Mrs. Willett was widely known and very popular in the Parish of Marylebone, chiefly in connection with local charities previous to the war, and subsequently in assisting and taking an active interest in the raising of funds for our dumb friends, through the R.S.P.C.A. She had also taken a keen interest in Alexandra Rose Day since its inception.

The deceased lady, who was a member of an old Montgomeryshire family, leaves a husband and two children to mourn her loss.

She was laid to rest in the family grave at Marylebone Cemetery on Friday, the 19th inst. The service at Holy Trinity Church, conducted by the Rector, the Rev. Ernest Sharpe, was fully choral and largely attended.

The following members of the Central V.M.A. were amongst the congregation: Prof. Wooldridge, Messrs. MacCormack, McIntosh, R. J. Foreman, G. P. Male (Reading).

Many beautiful wreaths and letters of condolence were received from—amongst others—the following, testifying to the respect in which she and her husband were held: Mr., Mrs. and Miss Woosnam (brother), Mr. and Mrs. G. Morgan and family (sister), Mrs. Albert Willett, Mr. and Mrs. F. W. Willett, Capt. and Mrs. Ernest Willett, Mr. and Mrs. F. Tims, Lt.-Col. Lord Penrhyn and Officers 1st Life Guards, Lt.-Col. Fitzgerald, M.V.O., and Officers Royal Horse Guards, Lt.-Col. Sir George Holford, M.V.O., Col. C. Rutherford, C.B., C.M.G. (Ireland), Sir Alan Bagot, Bt., Sir Adolph and Lady Tuck, Sir Stewart and Lady Stockman, President and Fellows Central Veterinary Society, Mrs. J. Blundell Leigh, Dr. and Mrs. Jenkins, Dr. and Miss Quartley, Prof. and Mrs. Wooldridge, Major Pelham, Capt. and Mrs. C. Bray (Melton Mowbray), Capt. and Mrs. H. E. Jackson, Lt. T. Searle, A.S.C., B.E.F., The Directors of Messrs. Debenham, Ltd., Mr. E. L. Stroud, Mr. H. A. MacCormack, Mr. and Mrs. G. P. Male, Mr. and Mrs. J. McIntosh, Mr. and Mrs. J. B. Buxton, Mr. and Mrs. R. J. Foreman, Mr. and Mrs. E. J. Whittle, Mr. and Mrs. F. C. Edwards, Warrant and N.C.Os. 1st Life Guards, Warrant and N.C.Os. Royal Horse Guards.

Mr. J. WILLETT and Family return thanks for kind enquiries and sympathy in their bereavement; they regret that owing to the large number it is impossible to answer them individually.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
		Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended April 20		9	9				2	90	153	5	34	10
Corresponding week in	1917 ...	15	16					44	75	6	77	35
	1916 ...	8	11			1	1	31	81	4	118	358
	1915 ...	19	20			2	2	56	152	1	84	548
Total for 16 weeks, 1918		109	124			13	35	2142	4186	230	283	106
Corresponding period in	1917 ...	220	253			10	19	1154	2431	342	757	286
	1916 ...	207	246	1	24	21	60	1126	2755	161	1407	4365
	1915 ...	255	285			11	16	†161	†320	138	1181	5098

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive

(a) Confirmed. (b) Reported by Local Authorities.

† Counties affected, animals attacked :— London 2

Board of Agriculture and Fisheries, April 23, 1918

Excluding outbreaks in army horses.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :—

J. Clarkson, Garforth	£1	1	0
J. F. Craig, R.V.C., Dublin	1	1	0
F. J. Daly, Swords	1	1	0
C. H. Delacherois, Sandford	1	1	0
T. Dobie, Birkenhead	1	1	0
W. Dobie, Birkenhead	1	1	0
J. Henderson, Edinburgh	1	1	0
A. Holbnrn, Congleton	1	1	0
J. Lindsay, Dumfries	1	1	0
S. W. Pratt, Shanghai, China	1	1	0
A. Spicer New Oxted	1	1	0
Previously acknowledged	692	6	0
	£703	17	0

Defence of the Realm.—Ministry of Food.

AUTHORITY TO LICENCEES UNDER 39 & 40 VICTORIA CAP. 77.

In exercise of the powers conferred upon him by the Defence of the Realm Regulations and of all other powers enabling him in that behalf, the Food Controller hereby authorises all persons concerned to give effect to the following provisions :—

1. Notwithstanding the provisions of any Order made or to be made by or under the authority of the Food Controller relating to the acquisition or use of foodstuffs a person who holds a licence issued by the Secretary of State under Section 8 of 39 & 40 Victoria cap. 77. may obtain and use such foodstuffs as are required by him for the feeding of animals kept for the purpose of the experiments to which such section relates, or as are required by him for the preparation of laboratory materials in connexion therewith, but subject nevertheless to the subsequent provisions hereof and to such other conditions as the Food Controller may from time to time prescribe.

2. Where the supply or acquisition of any foodstuffs is regulated by any Order made by or under the authority of the Food Controller, such foodstuffs may be supplied by a person under this Authority only upon delivery to him of an Official Order form covering the amount supplied and signed by the licensee and all such forms shall at all times be open to the inspection of any person authorised by the Food Controller or a Food Control Committee and shall be delivered up to any such person on demand.

3. Every person who obtains or uses any foodstuffs by virtue of this Authority shall keep a record of the quantities so obtained or used by him and of the names of the persons from whom the same have been obtained, and shall produce such record to any person authorised by the Food Controller or a Food Control Committee.

By Order of the Food Controller,

W. H. BEVERIDGE,

Second Secretary to the Ministry of Food.

5th April, 1918.

Prof. GAIGER, who has been appointed Professor of Bacteriology in Glasgow Veterinary College, has a splendid record of work in India, Peru, and the West Indies. He is taking on some serious work in the Glasgow College in connection with sheep diseases, and should be heartily and liberally backed up.—*The Scottish Farmer.*

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.
Pres : Mr. H. BARROW, M.R.C.V.S., Ireby, Carlisle
Hon. Sec : Mr. R. Craig Robinson, M.R.C.V.S., Carlisle
Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.
Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

ROYAL VETERINARY COLLEGE V.M.A.
Pres. Capt J. T. Edwards, B.SC., M.R.C.V.S.
Treas : E. S. Shave, Esq., F.R.C.V.S., M.R.C.S.
Sec : Mr. B. Gorton, M.R.C.V.S. *Asst. Sec.* C. W. Heane.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH
Pres : Mr. T. Douglas, M.R.C.V.S., Kilmarnock
Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow

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